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Agricultural Biotechnology Annual

Mexico Cautiously Moves Forward with Biotechnology

Approved By:

Dan Berman

Prepared By:

Adriana Otero & Erik Hansen

Report Highlights:

Mexico continues to send mixed signals regarding its stance towards biotechnology. On one hand, in June 2012, the GOM moved forward with authorization of 253,000 ha of GM soybeans for commercial cultivation. On the other hand, in November 2011, the Secretariat of Environment and Natural Resources (SEMARNAT) submitted a [draft agreement](#) including a map delineating the centers of origin and centers of corn genetic diversity in Mexico. It has generated great controversy between numerous government, industry, academic, and other public interests, as GM corn production would be prohibited in the majority of the country by this proposal. No date has been stipulated as to when the final map would be published or released in Mexico's Federal Register (*Diario Oficial*).

Under Mexico's Biosafety Law and its Implementation Rules (Reglamento), three different agencies are responsible for Mexico's biotech policies, while the Inter-Ministerial Commission on Biosecurity and Genetically Modified Organisms (CIBIOGEM) coordinates Mexico's biotech activities. Mexico has grown biotech crops since 1988 and is one of the original six countries to do so. Mexico struggled with

a government regulatory structure until its biosafety law was passed in 2005. With the provisions of that law fully implemented, Mexico was ready to move forward with expanding biotech crop production. While Mexico has a unique issue as the center of origin for corn, none of the other biotech regulations are considered unusual, but there are perceived problems with their implementation. The GOM can draw on the regulatory work already completed in the United States for corn, soybeans and cotton, and also draw on research in Brazil where all three crops are widely grown and India where biotech cotton is a major crop. They could also draw on research by major importers like the European Union, Japan, South Korea and China.

Cotton has been the major Mexican biotechnology success story. The Confederation of Mexican Cotton Associations (CMCA) stated that biotechnology continues to be an important tool in increasing yields and reducing pesticide usage in Mexico's cotton sector. CMCA stated that pesticide application dropped by over 50 percent due to use of GM seeds while yields have increased dramatically. Industry sources estimate that for MY 2011/12, 85 percent of the total area planted used GM seeds with an average yield of 8.55 bales/ha. Conventional hybrid cotton seed yields average only 7.24 bales/ha.

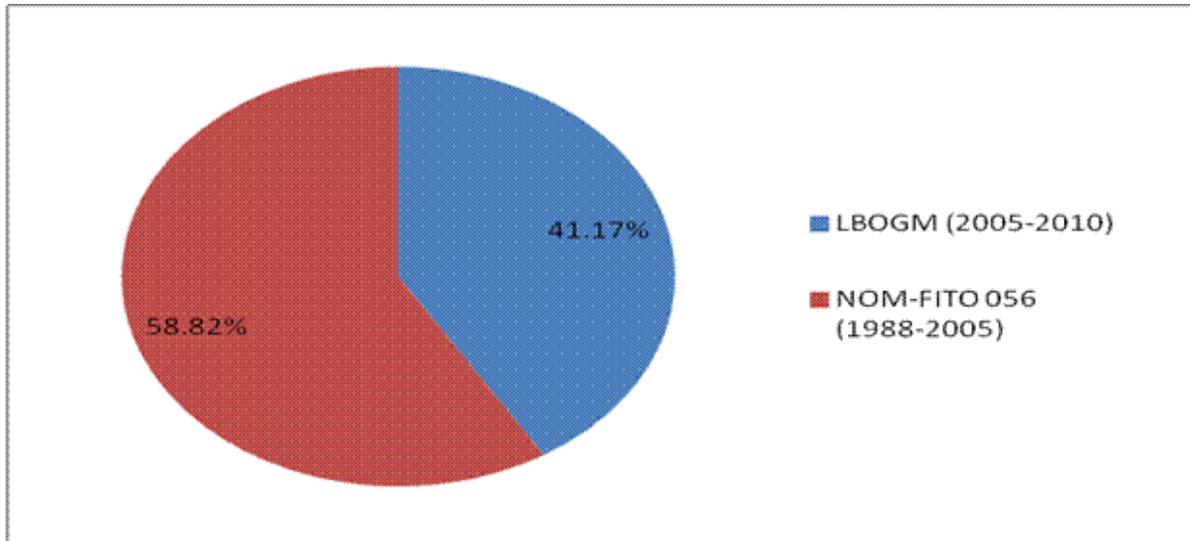
Section II. Biotechnology Trade and Production

Production

Based on Mexico's Biosafety Law (See "Plant Biotechnology Policy" section, below), all transgenic seeds must go through three different testing phases: experimental, pilot, and commercial. Biotechnology developers (companies and national or international research public centers) try to complete experimental testing as soon as possible in order to begin the pilot testing and, afterwards, the commercial release stage. The acreage permitted by the Secretariat of Agriculture (SAGARPA) for experimental and pilot testing purposes is in accordance with the Biosafety Law (See Table 1). In 2011, SAGARPA permitted the cultivation of 586,910 ha of GM cotton for experimental, pilot, and commercial cultivation followed by 46,027 ha of GM soybeans and 112 ha of GM corn (See Table 2). The GM cotton area permitted for commercial release in 2011 totaled 341,000 ha. In 2012, commercial cultivation of GM soybeans was granted on a total of 253,500 ha (GAIN Report MX2035) of land.

A list of biotechnology crops permitted for field testing since 1988 (along with the area planted) can be found at Mexico's National Information System of Biotechnology and Biosafety. From 1988 to 2005, 330 field testing permits were issued for 26 different species. From 2005 to 2010, under the Biosafety law regulation, 231 field testing permits were granted for just 5 species (Figs. 1 and 2).

Figure 1. Mexico: Permitted field testing for GMO in Mexico (1988 to 2010).

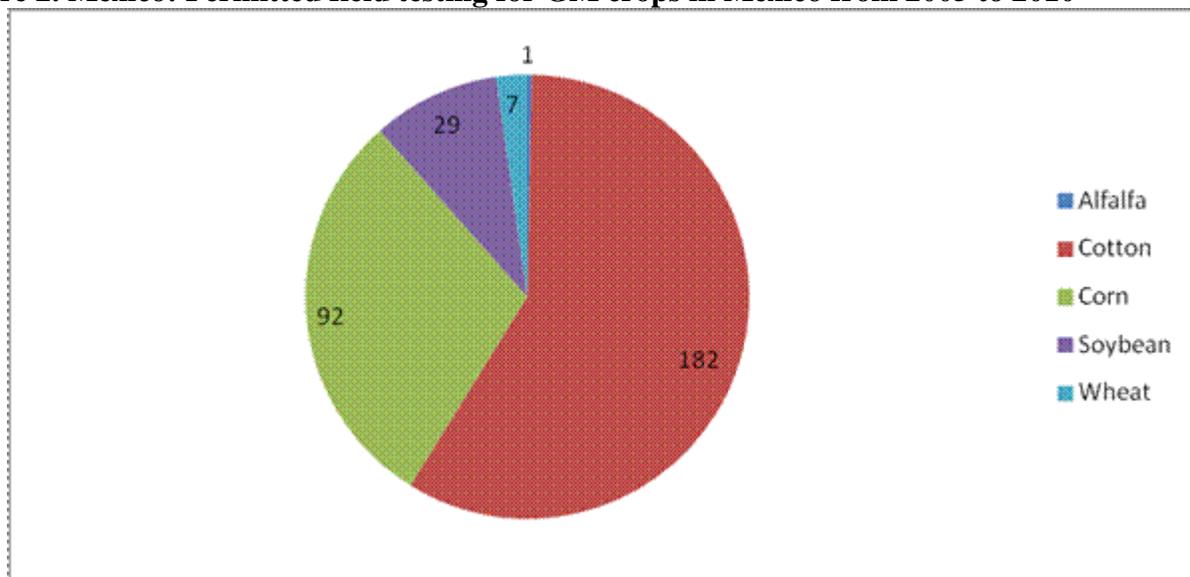


LBOGM: Mexican Law of Biosafety of Genetically Modified Organisms.

NOM-FITO 056: Phytosanitary Nom that regulates crop biotechnology in Mexico before the LBOGM took effect in 2005.

Source: Mexican National Information System for Biosafety and Biotechnology

Figure 2. Mexico: Permitted field testing for GM crops in Mexico from 2005 to 2010



Source: Mexican National Information System for Biosafety and Biotechnology

Cotton

Cotton has been the major Mexican biotechnology success story. The Confederation of Mexican Cotton Associations (CMCA) stated that biotechnology continues to be an important tool in reducing pesticide usage in Mexico's cotton sector. CMCA stated that pesticide application dropped by over 50 percent due to use of GE seeds while yields have increased dramatically. Industry sources estimate that for MY 2011/12, 85 percent of the total area planted used GM seeds with an average yield of 8.55 bales/ha. Conventional hybrid cotton seed yields average only 7.24 bales/ha. Although cotton growers in northern Mexico have adopted the use of GM seed varieties, other factors, such as weather and technology - can explain differences in production levels. For example, in the Mexican state of Tamaulipas, all cotton production is in non-irrigated areas, which significantly reduces yields.

AgroBio, a private organization made up of the main agricultural biotechnology developers in Mexico (Monsanto, Pioneer, Syngenta, Dow, Bayer Crop Science, etc), launched a “Cotton Plan 2020” in September 2011. The main objective of this plan is to increase domestic cotton production from 750,000 bales in 2010 to 3 million bales in 2020 - primarily through the use of GM cotton seed and increased planting area. CMCA admits that this plan is extremely ambitious as increasing production to 3 million bales would require at least 500,000 ha of planted area.

Table 1. Mexico: Status of the Resolutions of Permit Requests for the Environmental Release of GMOs, Submitted in 2010, 2011 and 2012*

		Experimental	Pilot	Commercial	Total	Permitted
2010	cotton	13	19	1	33	
	corn	67	1 (8 NA)	0	68	
	soybean	0	3	0	3	
	wheat	6	0	0	6	
2011	cotton	20	9	4	33	
	corn	54 (4 NA, 1 pend)	6 (11 NA)	0	60	
	soybean	1 (1 NA)	5	0	6	
	wheat	15	0	0	15	
2012	cotton	(4 RA)	0	0	0	
	corn	(13 RA)	3 (11 RA)	0	3	
	soybean	0	0	1	1	
	wheat	(14 RA)	0	0	0	

*Information as of July 2012 ** Includes non-approved (NA) events, pending permits (pend) or in risk assessment process (RA). Source: SENASICA and the National Information System for Biosafety and Biotechnology

Table 2. Mexico: Area Permitted for Release of GM Crops, 2011 Applications (Hectares)

	Experimental	Pilot	Commercial	Total
Cotton	115,110	130,800	341,000	586,910
Corn	41	71	0	112
Soybean	0.34	46,027	0	46,027
Wheat	1.40	0	0	1.40

Source: Mexican National Information System for Biosafety and Biotechnology

Corn and Other Coarse Grains

Mexico depends on imported corn for food and animal feed in Mexico while it reconciles concerns with genetic diversity and the costs associated with restrictive policies against cultivating GM corn. The GOM has instituted trade policies that allow users to competitively source food and feed grains from global markets to avoid higher costs for Mexican consumers of meat, dairy and poultry products. Ironically, corn imports come from countries that produce mainly GM corn such as the United States and South Africa.

All biotechnology crops being tested in Mexico for food and feed were developed in the United States and have passed through the U.S. regulatory system (See Table 3 and Fig. 2). Unlike the United States, Mexico does not make a distinction between food and feed approval, but rather approves both for

human consumption.

Table 3. Mexico: Authorized Events for Consumption in Mexico

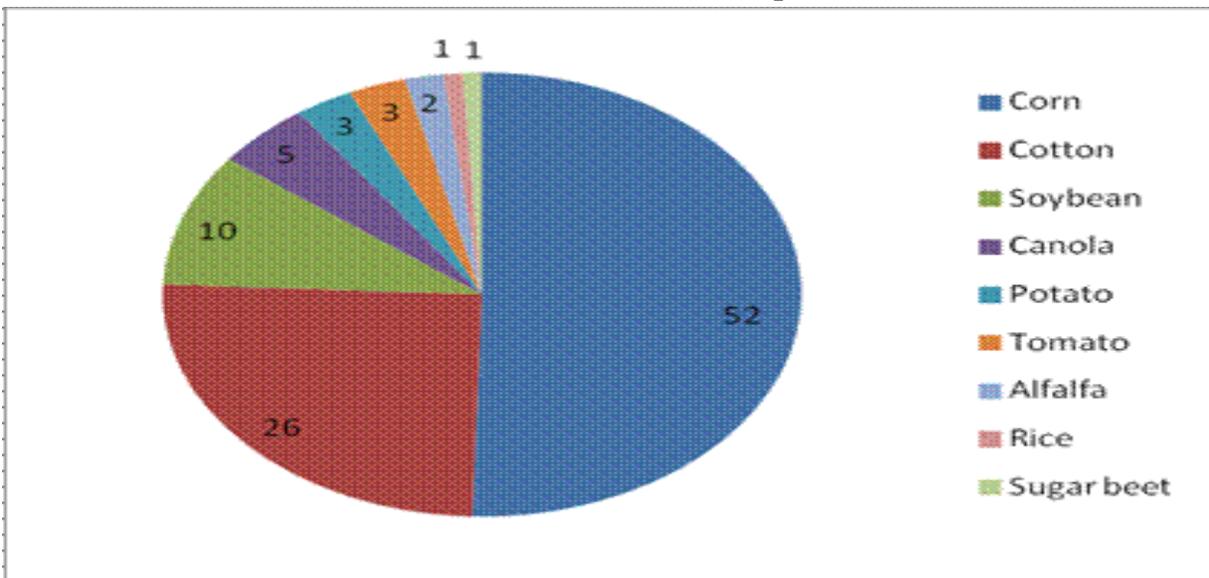
	1995-2000	2001-2005*	2006-2010	2011-Present	Total
Alfalfa		1	1		2
Canola	2	2		1	5
Cotton	3	6	16	1	26
Corn		9	35	8	52
Potato	1	2			3
Rice			1		1
Soybean	1	1	4	4	10
Sugar beet			1		1
Tomato	3				3
	10	21	58	14	103

*Prior to Biosafety Law

Source: <http://www.cibiogem.gob.mx/OGMs/Documents/COFEPRIS-Salud/lista-evaluacion-inocuidad.pdf>

Since 1995 there have been a growing number of GM commodities approved for food and feed as can be seen in Table 3. Corn is the species with more than 50 percent of events approved for consumption (Fig. 3).

Figure 3. Mexico: Number of Events Authorized for Consumption in Mexico



Source: Mexican National Information System for Biosafety and Biotechnology

In 2010, developers and research institutions began to experiment with GM corn in the several states in northern Mexico. 20 permits for field trials were approved for independent scientists at local universities and public research institutions while more than 75 biosafety measures and conditions were required by government regulators. The trials were focused on the agronomic equivalence of GM corn,

the biological effectiveness of insect resistant corn and the effectiveness of herbicide tolerant corn. 20.6 acres of experimental plantings of GM corn occurred in the first couple of months of 2011. These were from 9 applications with a variety of different biotech events. Two requests for pilot testing, the next step in the approval process, were denied. Only a tiny portion of the requested area for planting and conducting the tests were permitted.

Centers of Origin and Genetic Diversity of Corn

An important component of Mexico's Biosafety law states that centers of origin for native corn are off limits to biotech plantings. As a result, the GOM is preparing to publish a map delineating the centers of origin and genetic diversity of corn in Mexico. This has generated controversy between numerous government, industry, academic, and other public interests, as under one preliminary proposal, genetically modified corn production would be prohibited in the majority of the country (See 2010 GAIN Report MX1100 Mapping Mexican Corn and Implications for Biotech Development). However, it also contains measures that will have a cost to all corn producers (GM or conventional) who will need to present GM detection tests on all commercial corn. No date has been provided when the final map would be published or released in Mexico's Federal Register (*Diario Oficial*) and it is not clear whether this decision will be taken by the outgoing administration or left for the incoming one taking office December 1, 2012. However, it is thought to be in its last steps of approval, answering public comments in the Mexican Federal Commission of Regulatory Improvement (COFEMER). COFEMER is a technically and administratively autonomous organism of the Secretariat of Economy and its function is to ensure transparency in the drafting of federal regulations and to promote the development of cost-effective regulations that produce the greatest net benefit.

Soybeans

On June 6, 2012, the National Health, Food Safety and Food Quality Service (SENASICA) announced its decision to allow the commercial planting of enough transgenic soybean seed to potentially cover a surface area of 253,500 hectares, including the use of 13,075 metric tons of seed in the states of Campeche, Quintana Roo, Yucatan, Tamaulipas, San Luis Potosi, Veracruz and Chiapas. GM soybeans had only previously been planted under the experimental and pilot stages in Mexico (since 1995). Domestic soybean production represents only 5 percent of total domestic consumption, as imports have displaced much domestic oilseed production with almost all soybean imports originating from the United States.

Mexican honey producers have expressed great concern with their government's recent approval of GM soybeans for commercial production – particularly since the European Court of Justice ruled that honey which contains trace amounts of pollen from GM crops authorized for human consumption in the EU must be labeled if the amount of GM pollen surpasses 0.9%. As a result of the ruling, and since GM soybeans may now be planted commercially in Mexico, all honey shipments from Mexico must undergo laboratory testing to identify and quantify the type of GM presence. As a result, Mexican honey producers are faced with paying for the mandatory testing and, if found to have more than 0.9% GM pollen, new labeling before their products can be sold to European consumers.

In the past 20 years, Mexican regulators always considered the possibility that bees could come into contact with the pollen of the GM plants in their risk assessments and that small amounts of GM pollen could be introduced into honey that was produced in the vicinity. The main information that was used for these risk assessments were (1) information about the toxicity (or absence of toxicity) of the newly

expressed proteins in the GM plants for humans or non-target organisms (NTO), and (2) an estimation of the accidental exposure of humans or NTOs to GM plant pollen. Mexican regulators developed risk assessments which looked at all safety issues before permitting the commercial planting of GM soybeans (GAIN Report MX2035). This controversy regarding soybeans and honey is an example of the overall sensitivity surrounding the development of biotechnology in Mexico.

Section III. Plant Biotechnology Policy

Mexico has grown biotech crops since 1988 and is one of the original six countries to first adopt such technologies. Mexico struggled with a government regulatory structure until its Biosafety Law was passed in 2005. With the provisions of that law fully implemented, Mexico was ready to move forward with expanding biotech crop production. While Mexico has a unique issue as the center of origin for corn, none of the other biotech regulations are considered unusual. The GOM can draw on the regulatory work already completed in the United States for corn, soybeans and cotton, and also draw on research in Brazil where all three crops are widely grown and India where biotech cotton is a major crop. They could also draw on research by major importers like the European Union, Japan, South Korea and China.

Biotechnology policy activities in Mexico are coordinated by CIBIOGEM, but the body has no enforcement function. Created in 1999, CIBIOGEM coordinates federal policy related to the production, export, movement, propagation, release, consumption, and advantageous use of GMOs and their products and by-products. Several agencies comprise CIBIOGEM, including Mexico's National Council of Science and Technology (CONACYT), and representatives of six Secretariats: Agriculture, Environment and Natural Resources, Health, Treasury, Economy, and Education. The CIBIOGEM presidency is held for periods of two years on a rotating basis among the Secretariats of Agriculture (SAGARPA), Environment and Natural Resources (SEMARNAT), and Health (SALUD). Currently the Secretary of SEMARNAT is in the second year of his tenure as president of the Commission. CIBIOGEM has a Vice President, permanently held by the Director General of CONACYT. According to the Biosafety Law, CIBIOGEM is led by an Executive Secretary who is nominated by CONACYT after consultations with the member Secretariats and then approved by the President of Mexico.

Mexico's comprehensive biotech regulation is the Biosafety Law, which was published in Mexico's Federal Register (*Diario Oficial*) in March 2005. This law addresses a number of legislative issues for the regulation of research, production and marketing of biotech-derived products. Mexico's Biosafety Law and its Implementation Rules (*Reglamento*) are designed to foment the safe use of modern biotechnology and prevent and control the possible risks associated from the use and application of biotechnology products to human health, plant and animal health, and environmental well-being.

The Biosafety Law also defines the respective responsibilities and jurisdictions of the Mexican Secretariats and agencies that monitor and/or enforce biotechnology regulations. In general, the responsibilities and the roles of the Mexican Government Secretariats are as follows:

SAGARPA - The role of SAGARPA is to analyze and assess, on a case-by-case basis, all of the potential risks to animal, plant, and aquatic health, as well as to the environment and biological diversity, posed by activities carried out with GMOs and based on the risk assessments and results drafted and filed by the interested parties. SAGARPA is responsible for deciding in the cases of crops, livestock and fisheries what GMO-related activities are permissible and issues permits and receive

notifications for those activities. SAGARPA also provides guidelines and parameters for all GMO-related experiments and activities. These activities include: experimental field trials, pilot program releases, commercial releases, marketing, and GMO imports. Finally, SAGARPA is responsible for monitoring and mitigating the effects that accidental or permitted release of GMOs may cause to animals, plants, aquatic health, and biological diversity.

SEMARNAT - Wildlife falls under SEMARNAT domain. All other organisms fall under the competence of SAGARPA. Nevertheless, the role of SEMARNAT is to analyze and assess, on case-by-case basis, all of the potential risks that activities carried out with GMOs may cause to the environment and biological diversity. These analyses are based on the risk assessment studies and results drafted and filed by the interested parties. In addition, SEMARNAT is responsible for permitting and licensing activities that involve the environmental release of GM wildlife organisms and is charged with providing guidelines and parameters for such activities. SEMARNAT also monitors the effects on the environment or biological diversity that may be caused by the accidental release of GMOs. In instances in which SAGARPA has primary responsibility for the kind of organism, SEMARNAT is still responsible for issuing bio-safety opinions prior to SAGARPA's resolution. (NOTE: SAGARPA, not SEMARNAT, issues approval for environmental release for crops, livestock and fisheries, although SEMARNAT renders an opinion to SAGARPA beforehand through the inter-agency process. END NOTE.)

SALUD - The role of SALUD is to assure the food safety of biotechnology-derived agricultural products destined for use as medicines or for human consumption. SALUD also assesses, on a case-by-case basis, studies drafted and filed by interested parties on the safety and potential risks of GMOs authorized under the Biosafety Law. While the Biosafety Law is the regulatory framework, the Implementation Rules contribute to the harmonization and consolidation of the previously fragmented nature of Mexico's biotech policies. For example, the Implementation Rule changes in 2009 allowed developers and research institutions to experiment with biotech corn in approved regions of Mexico.

The Implementation Rules supplement the Biosafety Law by:

- Authorizing relevant agencies to issue environmental release permits for GMOs.
- Defining the notification process for the Confined Use of GMOs.
- Creating internal bio-safety committees.
- Defining the GMOs that should be regulated by SALUD for the purpose of human health protection.
- Defining how biosafety information is to be publicly disseminated via the National System of Biosafety.

As a complement to the Biosafety Law, SEMARNAT published the Implementation Rules on March 19, 2008, and updated it on 2009 in Mexico's Federal Register (*Diario Oficial*). The Implementation Rules regulate the study, environmental release (at different phases), and commercialization of GMOs along with providing the basis for biotechnological research and creating the monitoring mechanisms for importing GM products into and producing GM crops throughout Mexico.

In general, the Implementation Rules:

- Regulate activities that involve modification of the genetic material of an organism.
- Permit the environmental release of GMOs for experimental purposes.
- Permit the environmental release of GMOs in stages prior to commercial release (pilot tests).

- Permit the environmental release of GMOs for commercial purposes.

The Implementation Rules clarify and define a number of procedures and expectations such as specifics on inspection; surveillance activities; security measures; guidelines on how sanctions will be administered in the event that the law is broken; requirements, time frames, and procedures for the appropriate Secretariats to use when issuing permits and notifications; and a framework for an appeals process at the relevant Mexican government body.

Mexico's Biosafety Law and the Implementation Rules do not specify a threshold limit for GM seeds, but sources stated that this could be interpreted in two ways: a) a zero-tolerance or b) that it can have 2% of impurities as any other seed and part of that impurities can be the GM seeds. According to SAGARPA, there is a 2% foreign material tolerance in imports of GM seed. Inspections may be done at warehouses in order to avoid rejections at the border. This percentage level is a potentially serious area of contention for many importers.

The Biosafety Law does not require labeling for packaged foods and feeds (commodities) that are equivalent to the conventional, but labeling is required for seeds for planting (Provision 101). Labeling information should include the fact that the planting seeds are genetically-engineered, the characteristics of the acquired genetic combination, implications with regard to special conditions and growing requirements, and changes in reproductive and productive characteristics.

Also, Mexico's Biosafety Law states that centers of origin for native corn and other native species are off limits to biotech plantings. Public concerns were, and still are, important, with Mexico being the center of origin of several crops. Thus, the regulatory policies in Mexico are still rigid enough to prevent GM corn from leaving the confined laboratory setting in the areas determined by the GOM as center of origin. The "precautionary principle" favored by the European Union is invoked which has further delayed its use in the field.

For stacked events, the Biosafety Law does not require additional reviews for a plant that combines two or more already-approved GM traits. But in practice GOM evaluate them as a different event than the parental ones.

On April 15, 2011, SAGARPA published in Mexico's Federal Register an agreement defining the notification process for the Confined Use of GMOs. According to SENASICA sources, this agreement facilitates the knowledge and register of confined use of GMOs by allowing developers, universities, and research institutes engaged in the confined use of GMOs to conduct work on events through a notification to authorities (i.e., SENASICA). The Mexican Biosafety Law establishes that SAGARPA or SEMARNAT will not need to grant permission for confined activities. The competent authorities, however, will retain the right to conduct random inspections and check that required procedures are followed. Additionally, sources stated that GOM will gain knowledge about the various research centers, universities, and developers undertaking confined use of GMOs because it is suspected that many institutions currently engaged in confined use of GMOs do not inform the authorities of their research due to lack of knowledge about the regulations and/or fear being prosecuted. NOTE: The Mexican Biosafety Law states that the "confined use" of a GMO is any activity by means of which the genetic material of an organism is modified or through which said organism is modified, grown, stored, used, processed, marketed, destroyed or eliminated. In order to carry out such confined use activities,

physical barriers or a combination of chemical or biological barriers are to be used with the aim of effectively limiting contact with people and the environment. For purposes of this Law, the area of the facilities or the scope of the confined use space cannot be part of the environment. END NOTE.

According to SENASICA officials, there are four regulations (NOMs) related to the Biosafety Law being drafted this year. These include:

1. A standard that establishes the content of the report containing the results of the environmental release activities for experimental and pilot tests of GMOs and any related possible risks to the environment and biological diversity, this has been approved by SAGARPA and now SEMARNAT is preparing the submission to the Federal COFEMER.
2. A labeling standard that includes general labeling specifications for GM seeds intended for planting, cultivation and agricultural production. SAGARPA is preparing the document for public comments before the submission to COFEMER.
3. A standard for plant risk assessment that establishes the requirements for the assessment of potential risks those GM animals could cause to plant health, the environment, and biological diversity during the experimental and pilot stages.
4. A standard for plant risk assessment that establishes the requirements for the assessment of potential risks that GM plants could cause to plant health, the environment, and biological diversity during the experimental and pilot stages.

A total of 103 biotech events are now authorized for food, feed and processing in Mexico, with the most recent being approved on December 16, 2011. The GOM has authorized the importation of 52 different varieties (events) of GM corn for food and feed purposes (Please refer to Table 3 and Figure 3). The complete list of events authorized by The Federal Commission for the Protection against Sanitary Risk (COFEPRIS) can be found in <http://www.cibiogem.gob.mx/OGMs/Documents/COFEPRIS-Salud/lista-evaluacion-inocuidad.pdf>.)

Organic Products Law

The Organic Products Law was published in the Federal Register on February 7, 2006. This law establishes additional regulations for the use of biotech-derived food products. There are three specific areas in which this law regulates biotech-derived products:

1. Provision 27 of the Law states that the use of all materials, products, and ingredients or inputs that come from, or have been produced with, genetically engineered organisms is prohibited in the entire production chain of organic products and the product must be labeled as GMO-free.
2. The Law also prohibits the use of substances or forbidden materials referred to in provision 27 that alter the organic characteristics of the products.
3. The Law allows SAGARPA to impose a fine of up to 700,000 pesos (roughly U.S. \$50,000) on any firm or individual that is found guilty of violating the law.

International Agreements

In 2002, the Mexican Senate ratified the Cartagena Protocol on Biosafety (CPB). This ratification helped ensure final congressional approval for the Biosafety Law in February 2005, as Mexico was obligated under the CPB to pass domestic legislation that harmonizes its domestic laws with its international obligations. Mexico has been actively participating at the Conference of the Parties serving as the meeting of the Parties to the Cartagena Protocol on Biosafety (COP MOPs) and working groups of experts (Ad hoc technical experts group, AHTEG and online forums) coordinated by the Secretariat of the Cartagena Protocol (see <http://bch.cbd.int/onlineconferences/rt-ra-la3.shtml>). Mexico also signed the Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety in February 2012.

Mexico was the fifth country to ratify the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity (CBD). The Protocol will be implemented 90 days after the 50 countries have completed the ratification process. Mexico is also part of the International Plant Protection Convention (IPPC), member since 1969 of the Codex Alimentarius (Codex), and the World Organization for Animal Health (OIE).

Section IV. Plant Biotechnology Marketing Issues

In general, Mexican consumers, producers, importers, and retailers remain disengaged from the biotechnology debate, with the latter often opting to let industry trade associations conduct any significant lobbying and educational outreach that may be necessary. Generally, Mexican consumers are concerned with the price and quality of their food and not its genetic composition. However, Mexicans across the socio-economic spectrum generally draw a distinction between conventional and genetically engineered corn, as many have concerns about the integrity of Mexico's native corn species. For Mexicans, corn is a symbol of their heritage, so acceptance of this technology may well be tied to the perception of protection of this native plant. This debate has been amplified by some non-governmental organizations opposed to the adoption of this technology.

Section V. Plant Biotechnology Capacity Building and Outreach

Through the North America Biotechnology Initiative (NABI), Mexico continues to harmonize its regulatory approach to agricultural biotechnology with its NAFTA partners (the United States and Canada). NABI is a forum for technical information exchange and for high-level policy discussion on biotechnology. It exists to identify and solve issues of common interest as well as to identify areas for further cooperation. This forum helps Mexico identify and address regulatory gaps and promotes a trilateral harmonized approach to agricultural biotechnology regulations. Under NABI, for example, Mexican CIBIOGEM, SAGARPA, SEMARNAT and Health officials are having routine conference calls with their counterparts (i.e., USDA, EPA, and FDA) in the United States and Canada.

The GOM through the National Institute of Ecology (INE, SEMARNAT) co-organized the international course "Statistical analysis and monitoring of GMOs" with the International Seed Testing Association (ISTA). The main objective of the course was to analyze and discuss the statistical tools to design sampling plans and data analysis to diagnose and quantify the presence of GMOs. It was directed to technicians in charge of private and public GMO detection laboratories. It took place in Mexico City July 25-29, 2011, with the participation of researchers from industry and regulators as well as of academics and scientific advisors.

SENASICA has been very active on capacity building and communication activities. In coordination with ColPos (Postgraduate Institute in Agronomy) they organized the “First International Symposium of insect resistance in GM crops”. It took place in Texcoco on July 28-29, 2011. Additionally, from October 25-27, 2011, an “International Symposium of GMO Detection” was held in Tecamac and Mexico City. For the last two years SENASICA have been organizing biannual Regional Forums on GM crops, the last ones carried out in Tuxtla Gutiérrez, Chiapas on September 29-30, 2011, (mainly about GM soybeans) and in Obregon City, Sonora on April 12-13, 2012, focused mainly on GM cotton. The next big conference will focus on GM corn and will take place in Guadalajara on July 26-27, 2012, with the participation of international experts.

Section VI. Animal Biotechnology

According to official sources, genetic engineering is not being used in Mexico for the development of agriculturally important animals/livestock. However, if it were to be carried out in the future, the relevant institutions would be the Biotechnology Institute of the Mexico’s National Autonomous University (UNAM) and the Center of Research and Advanced Studies of the National Technical Institute (CINVESTAV).

Moreover, there are no genetically engineered animals or products derived from animals intended for or currently in commercial production in Mexico. Despite the significant human and physical infrastructure that Mexico has in the biotech area, it has lagged behind in research in different areas that affect the development of biotechnological applications, such as the production of genetically engineered animals.

As in the case of plant biotechnology, the Biosafety Law and its Implementation Rules is the comprehensive legal biotech framework that regulates the development, commercial use, import and/or disposal of genetically engineered animals or products derived from these animals. Similarly, SAGARPA, SEMARNAT and SALUD are the Mexican Secretariats that monitor and/or enforce biotechnology regulations for Animal Biotechnology (see Section III Plant Biotechnology Policy).

Official sources indicate that there is no current outspoken opposition to GE animals although there may be some considering that a certain segment of the public is opposed to GE crops. In general, official sources have stated that the public lacks knowledge about genetically engineered animals and it is essential to educate the public on this issue.

The Status of Applications for the release of Genetically Modified Organisms in 2009, 2010 and 2011, can be found it in the following Internet address: <http://www.senasica.gob.mx/?id=2405>

For More Information

FAS/Mexico Web Site: We are available at www.mexico-usda.com or visit the FAS headquarters' home page at www.fas.usda.gov for a complete selection of FAS worldwide agricultural reporting.

Other Relevant Reports Submitted by FAS/Mexico:

Report Number	Title	Date Submitted
MX2001	Genetically Modified Corn Pilot Test Approved	06/01/2012

MX2041	Honey Producers Concerned. Biotechnology	06/26/2012
MX2047	Genetically Enhanced Corn Events Approved for Pilot Stage	07/08/2012
MX2017	Mexico Approves 4 Additional GE Corn Pilot Tests	03/23/2012
MX2024	Cotton Annual Report	04/24/2012
MX1100	Mapping Mexican Corn and Implications for Biotech Development	12/21/2011
MX1086	Biotech Corn Permits Being Reviewed-November Update	11/18/2011
MX1070	2011 Biotech Corn Permits Being Reviewed	09/20/2011
MX1056	2011 Biotech Annual: Mexico Authorizes First Commercial Biotech Cultivation	07/15/2011
MX1054	June Cotton Update	06/30/2011
MX1102	2010 Biotech Corn Permits Issued	01/26/2011
MX0044	2010 Biotech Annual: Mexican Government Continues to Support Biotech Crops	07/14/2010

Useful Mexican Web Sites: Mexico's equivalent to the U.S. Department of Agriculture (SAGARPA) can be found at www.sagarpa.gob.mx , equivalent to the U.S. Department of Commerce (SE) can be found at www.economia.gob.mx and equivalent to the U.S. Food and Drug Administration (SALUD) can be found at www.salud.gob.mx. These web sites are mentioned for the readers' convenience but USDA does NOT in any way endorse, guarantee the accuracy of, or necessarily concur with, the information contained on the mentioned sites.